

REMARKS

This Amendment is responsive to the Office Action mailed July 19, 2010. With this amendment claims 1, 3, 11, 13, and 20 have been amended and claims 14-15 and 18-19 have been canceled.

Support for the amendment can be found throughout the specification and claims as filed, including paragraph [0061] of the published application, as well as in Figure 1. No new matter has been added.

Requirement for Restriction

The Office Action acknowledges Applicants' election of "target sequence bound to the adaptor sequence" and "phosphorylation of the 5' end of either or both ends of a cassette construct" in the Election filed April 26, 2010 as species of the elected invention. The Office Action also indicates that the restriction between a target sequence bound to the adaptor sequence, a target sequence bound to the inverted sequence of the adaptor sequence, and a target sequence bound to both the adaptor sequence and the inverted sequence of the adaptor sequence is withdrawn.

In response, Applicants thank the Examiner for rejoining the species directed to a target sequence bound to the adaptor sequence, the inverted sequence of the adaptor sequence, or both. Applicants also respectfully request rejoinder of non-elected claims 5-6, 8-10, and 16 upon the indication that the elected subject matter is allowable. Applicants further preserve their rights to submit the non-elected subject matter in one or more continuation and/or divisional applications.

Status of the Application and of the Claims

Claims 1-3, 5-13, 16-17, and 20 are pending. Claims 5, 6, 8-10, and 16 are withdrawn as directed to a non-elected invention. Claims 1-3, 7, 11, 13, 17, and 20 are under consideration.

Information Disclosure Statement

Applicants note with appreciation the Examiner's acknowledgement of the Information Disclosure Statement filed June 12, 2006, as well as the Examiner's annotation thereto indicating the missing publication date of the Lee et al. document.

Claim Objections

The Office Action objects to claims 3 and 13 for recitation of "phosphorylation of the 5' end of either or both ends of a cassette construct." The Office Action further indicates that "similar issues" are present with regard to the non-elected species of each claim.

In response, and without acquiescing to the propriety of the objections, Applicants submit that the claims have been amended to recite "*the* cassette construct" instead of "a cassette construct." Accordingly, Applicants submit that the cassette construct now finds clear antecedent basis in the claims.

Applicants further submit that the claims are directed, *inter alia*, to a *polynucleotide* cassette construct, and that one of ordinary skill in the art would immediately know that a polynucleotide sequence has a 5' end and a 3' end. Accordingly, Applicants submit that sufficient antecedent basis exists for a polynucleotide cassette construct having a 5' end as well as a 3' end.

Applicants therefore respectfully request reconsideration of the claim objections and withdrawal of the same.

Claim Rejections – 35 U.S.C. § 112, Second Paragraph

The Office Action rejects claims 3, 13, 15, 17, and 19 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. In particular, the Office Action rejects claims 3 and 13 for recitation of “the 5’ end” for which insufficient antecedent basis is alleged.

In response, Applicants submit that claims 3 and 13 are not indefinite for the reasons set forth above with regard to the claim objections. In particular, Applicants submit that the claims are directed, *inter alia*, to a polynucleotide cassette construct, and that one of ordinary skill in the art would immediately know that a polynucleotide sequence has a 5’ end and a 3’ end. Accordingly, Applicants submit that sufficient antecedent basis exists for recitation of “the 5’ end.”

The Office Action also rejects claim 3 as allegedly indefinite for recitation of “prior to target sequence binding.”

In response, and without acquiescing to the propriety of the rejection of claim 3 under 35 U.S.C. § 112, second paragraph, Applicants submit that the instant Amendment is responsive to the present rejection. In particular, Applicants submit that both claims 3 and 13 as amended are even clearer and more definite insofar as the term “binding” has been replaced with “ligating” and the elements being ligated are also clearly set forth.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

Claim Rejections – 35 U.S.C. § 112, First Paragraph

The Office Action rejects claims 1-3, 7, 11-15, 17, and 17-20 under 35 U.S.C. § 112, first paragraph, as allegedly comprising new matter. In particular, the Office Action alleges that adequate written description is not found in the instant application for the genus of cassette constructs wherein a target sequence is bound to an adaptor sequence and the inverted sequence of the adaptor sequence (Office Action at page 5, first full paragraph). The Office Action further alleges that adequate written description support is not found for the expression vector defined by claim 11 comprising an “amplification product” (Office Action at page 5, second full paragraph).

In response, Applicants submit that the claimed subject matter does not comprise any new matter, and that the claims are directed to subject matter which is described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors were in possession of the claimed invention at the time of filing. In particular, Applicants note that Figure 1 clearly depicts a cassette construct consisting of an adaptor sequence bound to a target sequence, a spacer sequence, and an inverted sequence of the adaptor sequence bound to an inverted sequence of the target sequence.

Applicants further submit that claim 11 is directed to an expression vector for RNA interference comprising an amplification product, wherein said amplification product comprises a target sequence, an adaptor sequence, a spacer sequence, an inverted sequence of the adaptor sequence, and an inverted sequence of the target sequence, in that order. Applicants further submit that Figure 1 and paragraph [0061] of the published version of the application disclose such an amplification product.

Applicants further note that in contrast to the assertions regarding siRNAs set forth in the first two full paragraphs of page 6 of the Office Action, Applicants' invention is directed to constructs and methods for producing vectors and inducing RNA interference through dsRNA, not siRNA.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §112, first paragraph (new matter).

Claim Rejections – 35 U.S.C. § 102(b)

The Office Action rejects claims 1, 3, 7, 11, 12, 15, 17, 19, and 20 under 35 U.S.C. § 102(b) as allegedly anticipated by Brummell et al. (*The Plant Journal* **33**:793-800, Feb. 2003; hereinafter BRUMMELL).

In response, and without acquiescing to the propriety of the rejection, Applicants submit that BRUMMELL does not anticipate the claimed subject matter. In particular, Applicants submit that claim 1, for example, is directed to a cassette construct *consisting of* an adaptor sequence bound to a target sequence, a spacer sequence, and an inverted sequence of the adaptor sequence bound to an inverted sequence of the target sequence. BRUMMELL fails to disclose such a cassette construct. Instead, BRUMMELL appears to disclose a construct comprising an inverted repeat sequence of the 3'-untranslated region of the *nos* gene separated by a spacer and further attached via a Pst1 restriction site to an FMV promoter::hsp70 leader fused to a PG transgene (See, e.g., Figure 1).

Applicants further submit that the rejection with respect to claims 15 and 19 is rendered moot by the cancelation of those claims.

Based at least on the foregoing, Applicants submit that the claimed subject is not anticipated by BRUMMELL. Accordingly, Applicants respectfully request reconsideration of the instant rejection and withdrawal of the same.

The Office Action also rejects claims 1-3, 7, 11-15, and 17-20 under 35 U.S.C. § 102(b) as allegedly anticipated by Lee et al. (*Methods* 30:322-329, 2003; hereinafter LEE).

In response, and without acquiescing to the propriety of the rejection, Applicants submit that LEE does not anticipate the claimed subject matter. LEE discloses a nucleotide sequence “GGCCATCTAGGCC” (see Figure 1 on page 323). Applicants submit that, at best, such a sequence may be characterized as comprising an adaptor bound to a spacer, which spacer is further bound to a second adaptor, wherein the second adaptor is not inverted. Alternatively, if LEE were to be construed as disclosing the GGCCATCTAGGCC sequence as a spacer, and the arrowed sequences as adaptors, LEE would still fail to anticipate the claimed subject matter insofar as LEE does not disclose a cassette construct *consisting of* an adaptor sequence bound to a target sequence, a spacer sequence, and an inverted sequence of the adaptor sequence bound to an inverted sequence of the target sequence. In particular, Applicants submit that LEE fails to disclose such a cassette construct with an inverted sequence of the target sequence bound to the inverted sequence of the adaptor sequence.

With regard to claims 14-15 and 18-19, Applicants submit that the rejection over LEE is rendered moot by the cancelation of those claims.

Based at least on the foregoing, Applicants submit that the claimed subject matter is not anticipated by LEE. Accordingly, Applicants respectfully request reconsideration of the instant rejection and withdrawal of the same.

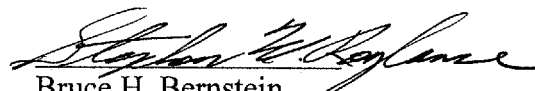
CONCLUSION


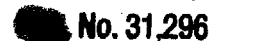
In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow all the pending claims.

No fee is believed due at this time. If, however, any additional fee is necessary to ensure consideration of the submitted materials, the Patent and Trademark Office is hereby authorized to charge the same to Deposit Account No. 19-0089.

Any comments or questions concerning this application can be directed to the undersigned at the telephone number given below.

Respectfully Submitted,
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